

CROSS-REFERENCE TO RELATED APPLICATION

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[0001] This application is a continuation of U.S. Application No. 09/672,422, filed September 28, 2000. Benefit of the earlier filing date is claimed in accordance with 35 U.S.C. §120.
now U.S. Patent No. 6,652,574

BACKGROUND OF THE INVENTION

[0002] The present invention relates to wire stents and related vascular devices. More particularly, it refers to a stent or other vascular positioned device containing a wire coated with a biocompatible fluoropolymer.

[0003] My prior application includes stents made from interwoven groups of yarn filaments containing a wire. U.S. Patent No. 6,161,399 issued December 19, 2000 and entitled, "Process for Manufacturing a Wire Reinforced Monolayer Fabric Stent" is hereby incorporated by reference. In addition, U.S. Patent No. 5,961,545 describes wire stents immobilized longitudinally between tubes of expandable polytetrafluoroethylene. U.S. Patent No. 5,957,954 describes braiding a stent and a polytetrafluoroethylene textile strand sleeve together in an axial alignment. U.S. Patent No. 6,015,432 describes an endovascular tube made from woven graft material with a wire employed in openings in the weave. U.S. Patent No. 5,741,325 describes a self-expanding intraluminal prosthesis containing interwoven fibers including reinforcing wire. U.S. Patent No. 5,607,478 describes how to make a prosthesis from an expanded polytetrafluoroethylene (ePTFE) tube with a winding of PTFE.

[0004] It also is well known in the prior art to coat insulated wire with foamed fluoropolymer insulation as described in U.S. Patent No. 5,770,819. None of these prior art disclosures teach how to coat a wire used in a prosthesis with a porous expanded PTFE to create uniform expansion of the prosthesis.

SUMMARY OF THE INVENTION

[0005] I have now invented a process to improve my stent of U.S. Patent No. 6,161,399 by coating the plurality of wire strands of the stent with a porous expanded PTFE. The addition of expanded PTFE to the wire strand reduces platelet adhesion to the stent product. Restenosis will not occur since tissue and cells will not adhere to the expanded PTFE.

[0006] The process of this invention is achieved by pretreating a spool of wire to achieve a predetermined shape to the wire and returning the treated wire to its spool. The wire is then fed